USSN: 10/683,593

Attorney Docket No. 2002B147/2

Reply to Office Action dated April 30, 2008

June 3, 2008

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## **Amendments to the Claims:**

This listing of claims will replace all prior versions and listing of claims in this application.

## **Listing of Claims:**

1.-91. (Cancelled)

- 92. (Currently Amended) A process for preparing a polymer composition comprising:
  - (a) combining a first metallocene catalyst compound comprising a zirconium or hafnium with propylene monomers in a polymerization medium;
  - (b) conducting polymerization of the propylene monomers in the polymerization medium with the first metallocene catalyst compound to form vinyl, vinylene or vinylidene terminated polypropylene macromer with a weight average molecular weight of less than 100,000 Daltons;
  - (c) combining a second metallocene catalyst compound comprising a zirconium or hafnium with the polymerization medium;
  - (d) conducting polymerization of the propylene monomers in the polymerization medium with the second metallocene catalyst compound to form a crystalline polypropylene with a weight average molecular weight of 100,000 Daltons or more;
  - (e) incorporating at least some of the vinyl, vinylene or vinylidene terminated polypropylene macromers into the crystalline polypropylene to form a branched crystalline polypropylene polymer; and
  - (f) recovering the branched crystalline polypropylene polymer from the polymerization medium,

## wherein

the polymerization medium has less than 25-volume percent diluent; the polymerizations are conducted at a reaction temperature of 75°C or less; and

wherein the first metallocene catalyst compound is an alkyl a bridged metallocene compound with at least two indenyl or tetrahydroindenyl rings substituted at one or both of the 4 and 7 positions and the second metallocene catalyst

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compound is a bridged metallocene compound that has at least two indenyl or tetrahydroindenyl rings substituted at the 2 and 4 positions; and

wherein the molar amount of the second metallocene catalyst compound is greater than the molar amount of the first metallocene catalyst compound.

- 93. (Previously presented) The process of claim 92 wherein the polymerization medium has less than 20 volume percent diluent.
- 94. (Previously presented) The process of claim 92 wherein the vinyl, vinylene or vinylidene terminated polypropylene macromer consists of at least 30% vinyl terminated polypropylene macromer.
- 95. (Cancelled)
- 96. (Previously presented) The process of claim 92, wherein the branched crystalline polypropylene polymer has a Branching Index of 0.98 or less.
- 97. (Previously presented) The process of claim 92, wherein the branched crystalline polypropylene polymer consists of 97 weight percent or more units derived from propylene monomer.
- 98. (Previously presented) The process of claim 92, wherein the branched crystalline polypropylene polymer consists of from 0.0 weight percent to 0.01 weight percent units derived from alpha omega diene monomer.
- 99. (Previously presented) The process of claim 92, wherein the polymerization medium comprises 30 volume percent or more propylene monomers before the first polymerization step.
- 100. (Cancelled)
- 101. (Currently Amended) The process of claim 92 100, wherein the molar amount of the second metallocene catalyst compound in the polymerization mixture is greater than the molar amount of the first metallocene catalyst compound in the polymerization mixture.
- 102. (Currently Amended) The process of claim 92 100, wherein the second metallocene catalyst compound is present in the polymerization mixture in a molar amount of at least three times that of the molar amount of the first metallocene catalyst compound.

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103. (Currently Amended) The process of claim <u>92</u> 100, wherein the polymerization mixture comprises 30 volume percent or more propylene monomers before the first polymerization step.

104. (Currently Amended) The process of claim 92 100, wherein the polymerization mixture comprises 70 volume percent or more propylene monomers before the first polymerization step.